Family Day Cruise & Air Demonstration

ORM Review & Case Study

Operational Risk Management (ORM): A Review

ORM is a decision making tool- used by personnel at all levels to increase operational effectiveness by anticipating hazards and reducing the potential for loss, thereby increasing the probability of a successful mission.

Purpose & Goal of ORM

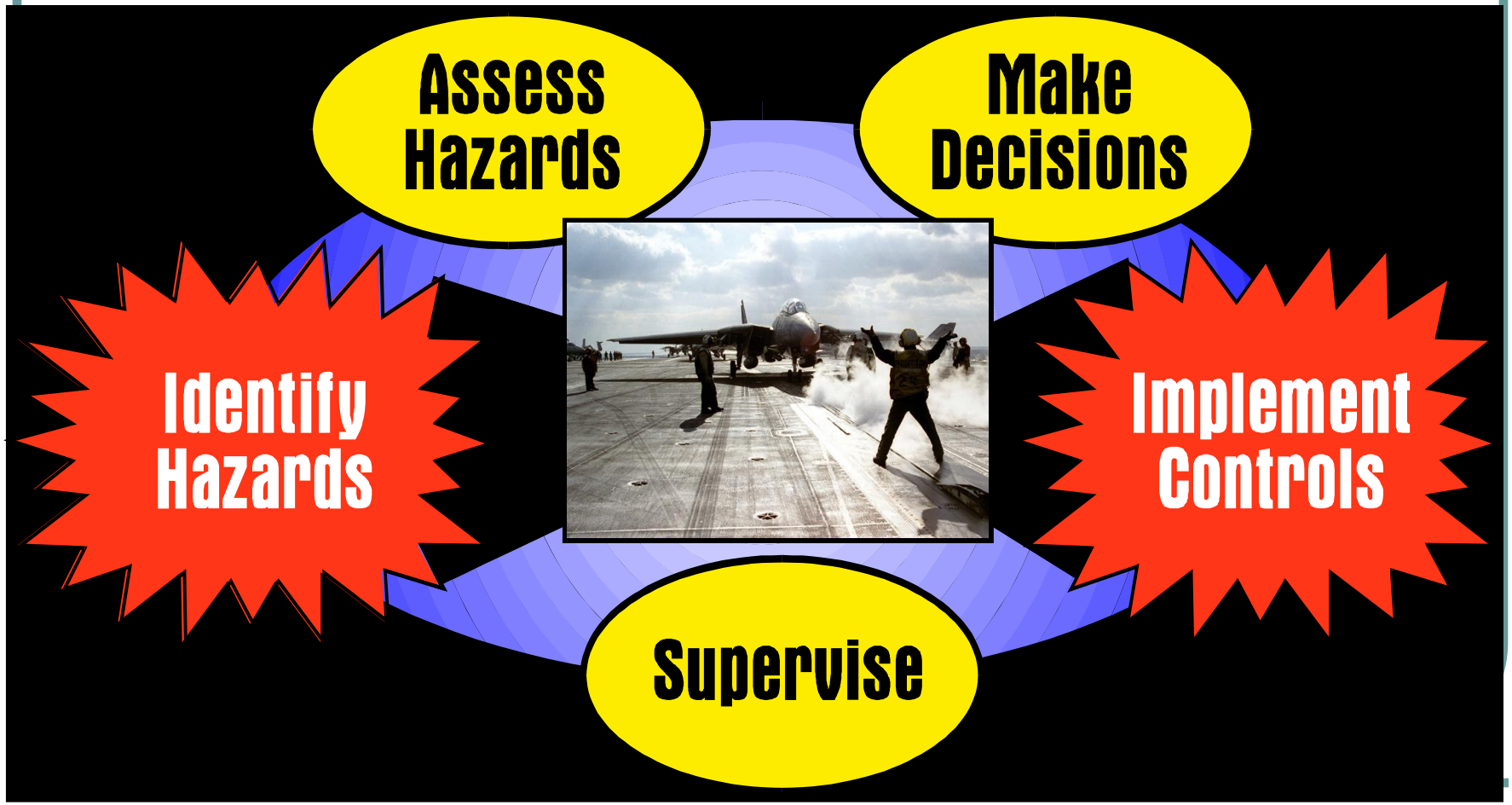
Purpose: minimize risks to acceptable levels, proportional to mission accomplishment.

Goal: manage risk so the mission can be accomplished with the minimum amount of loss.

ORM Process

ORM is a closed loop process of identifying and controlling hazards. It follows a 5-step sequence, is applied on one of three levels depending on the situation, and is guided by 4 principles.

ORM Process


Assess Hazards
Make Decisions
Identify Hazards
Implement Controls
Supervise

Three ORM Levels

- **Time Critical**
- **Deliberate**
- **In-Depth**

Four ORM Principles

1. Accept risks when benefits outweigh costs.
2. Accept no unnecessary risk.
3. Anticipate and manage risk by planning.
4. Make risk decisions at the right level.

ORM Terms

Hazard:

A condition with the potential to cause personal injury or death, property damage, or mission degradation.

Risk:

An expression of possible loss in terms of severity and probability.

ORM Terms

Severity:

The worst credible consequence which can occur as a result of a hazard

Probability:

The likelihood that a hazard will result in a mishap or loss.

ORM Terms

Control:

A method for reducing risk for an identified hazard by lowering the probability of occurrence, decreasing potential severity, or both.

- Engineering
  - Design/Material Selection
- Administration
- Personal Protective Equipment

ORM Pre-Evolution Assignment:

- Check out:

  Best practices

  Lessons learned

  TRACS (Total Risk Assessment Control System)

  http://www.safetycenter.navy.mil

Scenario : Family Day Cruise & Air Demonstration

CVN 76, USS Ronald Reagan along with CVW 14 is hosting a family day cruise and air demonstration.

Operational Analysis

- **Families to/from flight deck**
- **CVW Flyby**
- **CQ evolution**
  - **Carrier arrestment/catapult demo**
- **Airpower Demo**
  - **Pattern entry, bomb delivery, strafe**
- **SAR Demo**
  - **Launch, drop off/pick-up SAR ‘victim’, return to ship**

Preliminary Hazards Analy

- **Guest accountability:**
  - **Overboard**
  - **Medical emergency**
  - **Guest in sensitive area**
- **FOD**
- **CVW Midair**
- **CFIT**
- **Landing Mishap**
  - **Ramp Strike**
  - **Land Left / Right**

Preliminary Hazards Analys

- **Airborne A/C emergency**
- **Ordnance injury**
  - **Fragmentation:**
    - **CVN**
    - **Interlopers**
    - **Aircraft**
- **Parted Wire**
- **SAR 'victim' emergency**
  - **Lost at sea**
  - **Hyperthermia**
  - **Medical emergency**
- **Force Protection**

RAC Codes

Risk Assessment Code - (RAC)

1 = Critical
2 = Serious
3 = Moderate
4 = Minor
5 = Negligible

CAT I = Death/ Loss of asset.
CAT II = Severe injury / degradation of asset.
CAT III = Minor injury/ degradation of asset.
CAT IV = Minimal injury/ degradation of asset.

SEVERITY	Probability of Occurrence: Likely - Immediate (A)	Probably will occur in time (B)	May occur (C)	Unlikely to occur (D)
Cat I	1	1	2	3
Cat II	1	2	3	4
Cat III	2	3	4	5
Cat IV	3	4	5	5

Risk Levels
Risk Assessment Code

RACs without Controls

Risk -	Probability	Severity	RAC
Guest Accountability:			
Guest Overboard	**C**	**1**	**2**
Medical Emergency	**B**	**1**	**1**
Guest in Sensitive Area	**C**	**1**	**2**
FOD	**C**	**1**	**2**
CVW Midair, CFIT, Landing mishap	**C**	**1**	**2**

RACs without Controls

Risk -	Probability	Severity	RAC
Ordnance Injury	C	1	2
Parted Wire	C	1	2
SAR Victim: Lost at sea	C	1	2
Hyperthermia	C	1	2
Medical Emergency	C	1	2
Force Protection	C	1	2

Guest Accountability

- **RAC 2**

  Severity - 1, Catastrophic

  - **Probability** - C, Possible (may occur in time)

    X - Unacceptable risk without controls

- **Causes**
  - Improper Supervision
  - Jet/Rotor Blast
  - Unfamiliar with flight deck/dangers, unfamiliar with nets/life lines
  - Underlying medical issues
  - Ship Movement/Normal Ops
    - High winds

Guest Accountability: Contr

- **Controls:**
  - Manifest
    - Man overboard muster
  - Accountable Escorts
  - Additional Security
  - Crew brief to raise awareness
  - Visitor safety/policy onboard brief
  - Restrict flight ops to angled deck
  - Restrict guests to designated, marked viewing area

Guest Accountability: Contr

- Use SE Gear/Yellow Shirts as visible barrier
- SAR Helo & Lifeboat Manned
- Limit of 30 kts wind over the deck
- QA lifelines and nets
- Medical Prescreen
- Additional medical personnel available
- Age limitations

➢ **Residual risk with controls – RAC 3 (Catastrophic, Unlikely)**

✓ **Acceptable risk**

FOD

- **RAC 2**

  Severity - 1, Catastrophic

  - **Probability** - C, Possible (may occur in time)

    X - Unacceptable risk without controls

- **Causes**
  - Parts falling off of a/c (TFOA)
  - Unzipped pockets
  - Not checking out/accounting for tools properly
  - Wind debris

FOD: Controls

- **Controls:**
  - FOD walk down prior to flight ops
  - Brief guest to raise awareness
  - Guest only in designated areas
  - Ensure tool/maintenance accountability

- **Residual risk with controls – RAC 3 (Catastrophic, Unlikely)**

✓ **Acceptable risk**

Flight Mishaps

- **RAC 2**

  Severity - 1, Catastrophic

  - **Probability** - C, Possible (may occur in time)

    X - Unacceptable risk without controls

- **Causes**
  - Inadequate Scan
  - Pressure to perform
  - Fatigue
  - Task Saturation
  - Family on board, distracted
  - Poor airmanship/late wave-off

Flight Mishaps: Controls

- **Controls:**
  - CVW SOP
  - Brief and practice
  - Cruise experienced and Top 10 Hook
  - Aircrew/LSO Selective Scheduling
  - No immediate family of aircrew onboard
  - Do not fly directly over ship (CVW fly-by)
  - Range space/ATC Coordination

Residual risk with controls – RAC 3 (Catastrophic, Unlikely)

✓ **Acceptable risk**

Ordnance Injury

- **RAC 2**
  - **Severity** - 1, Catastrophic
  - **Probability -** C, Possible (may occur in time)

    X - Unacceptable risk without controls

- **Causes**
  - Incorrect delivery profile
  - Incorrect arm/fuse settings
  - Early/delayed burst
  - Weapon system malfunction
  - Unanticipated Weather

Ordnance Injury: Controls

- **Controls:**
  - Brief and train
  - Verified proper weaponeering quals
  - Sea Surveillance
  - Plan delivery at greater than ‘safe distance’
  - Selective ordinance
  - Stand off distance/Run-in heading
    - HS Smoke drop/aircrew confirmation dry pass
  - Selective Scheduling CO/CAG Approval
  - Establish weather requirements/minimums

Ordnance Injury: Controls

- **Controls:**
  - **Establish pattern clear of ship/danger area until all ordinance expended**

Residual risk with controls – RAC 3 (Catastrophic, Unlikely)

- ✓ **Acceptable risk**

Parted Wire

- **RAC 2**
  - **Severity** - 1, Catastrophic
  - **Probability -** C, Possible (may occur in time)

    X - Unacceptable risk without controls

- **Causes**
  - Improper servicing/maintenance
  - Cable not replaced as needed

Parted Wire: Controls

- **Controls:**
  - **Shipboard QA**
  - **Observer location**
    - **SE Barriers**
    - **Beyond the foul line, forward of the island**

Residual risk with controls – RAC 3 (Catastrophic, Unlikely)

- ✓ **Acceptable risk**

SAR ‘Victim’

- **RAC 2**
  - **Severity** - 1, Catastrophic
  - **Probability** - C, Possible (may occur in time)
- **Causes**
  - Rough sea state/drowns
  - Medical emergency
  - Aggressive marine life (e.g., sharks)
  - Extended exposure time
  - Anti-exposure suit leak
  - Water temperature colder than anticipated

SAR ‘Victim’: Controls

- **Controls:**
  - Brief and train
  - Medical screening
  - Use SAR trained rescue swimmer as ‘victim’
  - Deploy ‘victim’ no sooner than necessary
  - Equip ‘victim’ with survival/distress gear
  - Adhere to weather/sea state requirements

SAR ‘Victim’: Controls

- **Controls:**
  - PPE Inspected
  - Air/Sea surveillance
  - **Residual risk with controls – RAC 3 (Catastrophic, Unlikely)**
  - ✓ **Acceptable risk**

Force Protection

- **RAC 2**

  Severity - 1, Catastrophic

  - **Probability** - C, Possible (may occur in time)

    X - Unacceptable risk without controls

- **Causes**
  - Unauthorized material carried on board
  - Sabotage
  - False documentation

Force Protection: Controls

Controls:

- **Standard force protection procedures/SOP**
- **Manifest of 'approved' visitors**
- **Screened entry control points**
- **Additional security**

Residual risk with controls – RAC 3 (Catastrophic, Unlikely)

- ✓ **Acceptable risk**

RACs with controls

Risk -	Probability	Severity	RAC
Guest Accountability:			
Guest Overboard	**D**	**1**	**3**
Medical Emergency	**C**	**1**	**2**
Guest in Sensitive Area	**D**	**1**	**3**
FOD	**D**	**1**	**3**
CVW Midair, CFIT, Landing mishap	**D**	**1**	**3**

RACs without Controls

Risk -	Probability	Severity	RAC
Ordnance Injury	D	1	3
Parted Wire	D	1	3
SAR Victim: Lost at sea	D	1	3
Hyperthermia	D	1	3
Medical Emergency	D	1	3
Force Protection	D	1	3

Supervise/Follow-up

- Ensure controls are implemented
- Evaluate effectiveness of controls and adjust as necessary
- Ensure all personnel are familiar with risk, controls and their responsibilities
  - Be aware of ***changing conditions*** and use a time critical process as needed


Comments?

CVW FORTUNA FAVET FORTIBUS 14

CVW 14